Castilleja

The Newsletter of the Wyoming Native Plant Society

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Blowout penstemon (*Penstemon haydenii*) was thought to be Nebraska's only endemic plant, until Frank Blomquist of the BLM Rawlins Field Office recently discovered a population in northern Carbon County, Wyoming. *P. haydenii* can be recognized by its large, milky-lavender flowers that have a faint vanilla-like odor, and its dimorphic, glaucous leaves. Flowering plants have broad-based leaves that taper abruptly to a narrow point, while vegetative branches have uniformly narrow, grass-like leaves. Blowout penstemon grows in sparsely vegetated, shifting sand dunes or wind-carved depressions ("blowouts"). The species was listed as Endangered by the US Fish and Wildlife Service in 1987, making this Wyoming's first listed Endangered plant. For more on the discovery and natural history of blowout penstemon, see page 4. Illustration by Bellamy Parks Jansen.

WNPS NEWS

1999 Annual Meeting: The Society's annual meeting was held in the parking lot of the Green River campus of Western Wyoming College on 19 June. Approximately 20 people and 1 dog were on hand for a brief business meeting, highlighted by the election of new officers. Those elected for the 1999/2000 term are: President – Jim Ozenberger (Jackson), Vice President – Amy Roderick (Laramie), Secretary-Treasurer – Laura Welp (Laramie), 2-year board member – Steve Laster (Pinedale). Nina Haas remains as the carry-over Board member. Thanks were extended to out-going officers, Charmaine Delmatier, Jennifer Whipple, and Walt Fertig.

Meeting attendees also voted on two sites for next year's field trips. The Shirley Basin was selected for the annual meeting/field trip and the Black Hills were chosen for a second trip. Look for more details on these outings in a future issue of the newsletter.

Y2K Student Scholarship: Thanks to generous contributions by WNPS members, the society's annual student scholarship is available once again for qualified junior college or university undergraduate or graduate students. One to three scholarships will be awarded in the amount of $300-500. Interested students should contact the Secretary of the Society for an application form. Applications are due by 18 February 2000. Winners will be announced by the Board in March.

New Mailing Address: Please note that the Society has changed its mailing address to PO Box 3452, Laramie WY, 82071.

New Members: Please welcome the following new members of WNPS: Jerry Bigelow (Lander), Annie Martin Beauvais (Laramie), Shelley Ellis (Jelm), James Glennon (Rock Springs), Kelly Hughes (Laramie), Gretchen Hurley (Thermopolis), Seeds of the Plains (Belvidere, SD), and Shari Sellars (Ririe, ID).

We're looking for new members: Do you know someone who would be interested in joining WNPS? Send their name or encourage them to contact the Society for a complimentary newsletter.

Attention Readers: We are always looking for articles and illustrations for the newsletter. Items for the December issue are needed by 3 December 1999.

Treasurer's Report: Balance as of 1 October 1999: General Fund $803.20; 1999-2000 Student Scholarship Fund $802.50; Total funds: $1650.70.

Wyoming Native Plant Society
PO Box 3452, Laramie, WY 82071

President: Jim Ozenberger (Jackson)
Vice President: Amy Roderick (Laramie)
Secretary-Treasurer: Laura Welp (Laramie)
Board Members: Nina Haas (Cheyenne)
Steve Laster (Pinedale)
Newsletter Editor: Walter Fertig (307) 766-3020 (wk)/e-mail: clyde@uwyo.edu .
Teton Chapter: PO Box 82, Wilson, WY 83014 (Joan Lucas, Treasurer).
Contributors to this issue: John Baxter, Walter Fertig (WF), Linda Iverson, Bellamy Parks Jansen, Stuart Markow, and Norma Reiners.

Field Trip Reports

Annual Meeting – Flaming Gorge Country: At the conclusion of the business meeting, our intrepid throng of botanists proceeded to Logan Draw, a dissected plateau region of weathered Green River shale on the west bank of Flaming Gorge south of the city of Green River. We encountered a variety of desert wildflowers and shrubs in full bloom, including such regional endemics as *Sphaeromeria argentea, Tetradymia nuttallii, Elymus salinus,* and *Phacelia glandulosa.* The real prize, however, was the Green River greenthread (*Thelesperma caespitosum*), a localized endemic known from only one other site in Wyoming and 2-3 locations in northeastern Utah. The greenthread was formerly a candidate for listing under the Endangered Species Act and is still highly vulnerable to disturbances from off-road vehicles and mineral exploration.

From Logan Draw, we proceeded south on Sweetwater County Road 1 to the Cedar Mountain Road to have lunch and search for another endemic, the Opal phlox (*Phlox opalensis*). We located a healthy colony of phlox in full bloom on a gravelly, clay ridgetop, along with *Chamaechaenactis scaposa, Astragalus flavus, A. chamaeleuce,* and other desert wildflowers. Opal phlox was recognized as a new species in 1992, based on collections by Bob Dorn in the vicinity of Opal, Wyoming. It has since been found in abundance throughout much of southwestern Wyoming and near Manila, Utah and is no longer considered a species of high conservation concern.

Our next stop was along the bluffs north of McKinnon, where we encountered one of the few known colonies of the Precocious milkvetch, named because of its early flowering time. Unfortunately, the pinkish-white pea-like flowers had already withered by the time we arrived. An extensive population of this mat-forming, grayish forb occurs on this and an adjacent ridge to the east, representing the entire known world population of the species.

We made an additional stop just a few miles south to search for one of the few remaining populations of stemless beardtongue (*Penstemon acaulis* var. *acaulis*), a regional endemic that appears to be declining due to habitat loss in the McKinnon area and adjacent NE Utah. One tiny patch was discovered along a bladed road embankment amid numerous weeds. While searching for the penstemon, we also discovered a small population of Moab milkvetch (*Astragalus coltonii* var. *moabensis*). This handsome plant can be recognized by its tall, leafy stems, and dark purple, drooping, pea-like flowers.

After a refreshment break in Manila, the group continued on to our campsite in the Ashley National Forest. En route, we followed the scenic, geological "byway" through a spectacular canyon of early Paleozoic and Precambrian formations.

The following morning we continued to enjoy geology and scenery, with stops at Flaming Gorge Dam and pullouts along the east side of the reservoir (see group photo on page 8). We finally returned to Wyoming soil, where we stopped to explore "The Glades", a sandstone hogback along the state line. Much of the vegetation of the glades consists of thick Utah juniper woods, interspersed with occasional pinyon pine, curl-leaf mountain mahogany, and sagebrush. A number of rare or endemic plants occur on the mountain, including *Cryptantha stricta, Penstemon pachyphyllus, Philadelphus microphyllus,* and *Physocarpus alternans.*

Our final stop was a small Utah juniper thicket on the east shoulder of a steep, clay and sandstone mesa along the Little Firehole Canyon Road. While eating lunch and swatting no-see-ems, we enjoyed several unusual plants, including greasebush (*Glossopetalon spinescens* var. *meionandrum*), and brickell-bush (*Brickellia microphylla*). As cooling rain clouds moved in, the group parted ways, hopefully with a greater appreciation for the botanical and geological splendors of Flaming Gorge country. WF

Laramie Range: Approximately 25 nature lovers turned out for a sunny morning of wildflower watching with Walt Fertig on Saturday, June 26. The group observed over 40 wildflower and grass species in three-tip sagebrush/cushion plant and lodgepole pine/limber pine communities along the Headquarters Trail, east of the Lincoln Head monument off Interstate 80 on Medicine Bow National Forest. Among the noteworthy finds was Mountain-loving sedge (*Carex oreocharis*), a regional endemic of SE Wyoming, C Colorado, and N New Mexico, known from less than 6 sites in the state. We also located a population of Bitoothed cinquefoil (*Potentilla concinna* var. *bicrenata*), a low-growing, yellow-flowered forb that until last year had not been collected in Wyoming since the 1930s. In addition to the rarities, we also observed a variety of onions, fleabanes, umbels, and locoweeds. WF

Beartooth Botanizing: 16 people and 2 dogs spent the weekend of July 30-August 1 enjoying the wild-flowers of the Beartooth and Absaroka ranges. The weekend began with a Friday night campout on Bald Ridge on the east flank of the Absaroka Range in Shoshone National Forest. Here, we found small colonies of Absaroka goldenweed (*Pyrrocoma carthamoides* var. *subsquarrosa)* and Hall's fescue (*Festuca hallii*), both listed as Sensitive by the US Forest Service. Other plants of note included spike-oat (*Helictotrichon hookeri*), Gunnison's mariposa (*Calochortus gunnisonii*), and Indian-blanket (*Gaillardia aristata*). Animal lovers in the group were treated to the rare sight of a young grizzly bear being chased off a carcass by a hungry adult black bear (fortunately, at a safe distance away).

The following morning, the group proceeded to Swamp Lake for a morning of rare plant hunting in the state's most famous calcareous wetland. While skirting the south bank of the fen, we found colonies of *Eriophorum viridicarinatum, Salix candida, S. pseudomonticola, Kobresia simpliciuscula, Carex livida, C. limosa, Aster borealis,* and *Primula egaliksensis.* A crowd favorite was tiny *Scirpus pumilus* (*S. rollandii*), which resembles a diminutive green matchstick, only harder to find among the floating mats. Along the edge of the white spruce woods we also encountered dense colonies of *Petasites sagittatus* and *Arctostaphylos* (*Arctous*) *rubra.* The latter species is a boreal shrub found typically in Alaska and northern Canada. Swamp Lake is the only known location for this species in the lower 48 states. We were disappointed to find only one fruiting plant of *Amerorchis rotundifolia,* a lovely pink-spotted orchid found on mossy hummocks and rootmounds under white spruce.

From Swamp Lake, we traveled past the "Top of the World" to the east rim of Twin Lakes on the Beartooth Plateau (passing a herd of mountain goats along the way). Here, we observed a number of arctic-alpine disjuncts, including *Pedicularis oederi, Eriophorum callitrix, Phippsia algida, Senecio fuscatus,* and tiny *Koenigia islandica.* In addition, we completed the "grand slam" of Wyoming *Kobresia*, by finding *K. schoenoides* and *K. myosuroides* (formerly *K. macrocarpa* and *K. bellardii*, respectively). The *Kobresias* resemble members of the genus *Carex*, but differ in having a slit, rather than fused perigynium (a subtle feature, but one that was not lost upon those who completed the *K*-slam).

On Sunday, the remaining botanists explored Clay Butte, also known as "*Draba*-land" for its rich assortment of rare and endemic mustards. Other interesting alpine species included tiny *Erigeron humilis*, and 3 mat-forming willows: *Salix arctica, S. reticulata,* and *S. rotundifolia.* For die-hards, the day ended with mucking through the swamp south of the Clay Butte turnoff, where we found 5 rare sedges and *Ledum glandulosum.* WF

Blowout Penstemon: Wyoming's First Endangered Plant

By Walter Fertig

Blowout penstemon (*Penstemon haydenii*) is a milky-lavender flowered, aromatic, perennial plant restricted to shifting, sparsely vegetated sand dunes. For years, it was thought to occur only in the Sand Hills of Nebraska, where it was listed as Endangered under the Endangered Species Act. Now thanks to the keen eye of a Bureau of Land Management range conservationist, this plant is also known from central Wyoming.

Frank Blomquist of the BLM Rawlins Field Office first discovered blowout penstemon in 1996 while conducting riparian surveys on public lands south of the Ferris Mountains in northwestern Carbon County. Frank found the plants while taking a lunch break on high sand dunes overlooking a remote wetland area. Uncertain about the identity of the plant, he sought help from Amy Roderick, a graduate student at the University of Wyoming, who was studying the flora of the local area. Blomquist and Roderick revisited the dune site in June 1998 and collected a sample of the mystery plant in bud and early flower. Unfortunately, the plants were too immature to positively identify, although Roderick and other botanists at the University suspected it was either blowout penstemon or an undescribed species.

In July 1999, Blomquist led Roderick and UW botanists Ernie Nelson, Walter Fertig, and Courtney Ladenburger back to the site. This time, the plants were in full bloom and could be positively identified as blowout penstemon. To be certain, samples were sent to Drs. Noel and Pat Holmgren at the New York Botanical Garden and Dr. James Stubbendieck of the University of Nebraska, for positive confirmation. With this discovery, Wyoming now has its first listed Endangered plant!

Blowout penstemon can be recognized by its large, milky-lavender flowers that smell faintly of vanilla and its blue-green, waxy foliage. Flowering plants have broad-based, clasping leaves that taper abruptly to a narrow tip, while vegetative plants have slender, grass-like leaves. Individual plants produce multiple stems that can survive burial in shifting, wind-blown sand. The plants occur only in sites with little competing vegetation or where strong winds have created depressions in the sand called "blowouts".

Early naturalists in Nebraska reported that blowout penstemon was relatively common. In the past, this species depended on prairie wildfires and free-ranging bison to keep vegetation off the shifting dunes. The removal of fire, leveling of dunes, reduction of grazing, and cultivation of stabilizing cover crops drastically reduced the amount of habitat available for this species. Loss of habitat, coupled with impacts from insect outbreaks, drought, inbreeding, and potential overcollection, prompted the US Fish and Wildlife Service to list blowout penstemon as Endangered in 1987. Only 3,500-5,000 plants are currently found in Nebraska at about a dozen sites.

Under the Endangered Species Act (ESA), blowout penstemon is protected from malicious harm or collection on public lands. Federal land management agencies are required to consult with the US Fish and Wildlife Service before undertaking projects within known or likely potential habitat to ensure that their actions do not harm the species. Under the ESA, protection is far less stringent on private lands, although the plants are protected from harm by trespassers and from the use of certain chemical herbicides.

The Wyoming population is limited to an area of about 20 acres and contains 300-500 plants. The site is on public lands managed primarily for grazing. Studies in Nebraska have found that livestock grazing is rarely a threat to blowout penstemon, although the flowering stalks may be eaten occasionally. Grazing could be a management tool to promote blowouts by reducing sand dune vegetation.

Blowout penstemon is only the second Wyoming plant to be listed under the Endangered Species Act. Ute ladies-tresses (*Spiranthes diluvialis*) was listed as Threatened in 1992 and discovered in Wyoming in 1993. Two other plants, the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) and desert yellowhead (*Yermo xanthocephalus*) have been proposed for listing since 1998, but no final decision has been made by the US Fish and Wildlife Service.

Below: *Penstemon haydenii* by Bellamy Parks Jansen.

Growing Echinacea

By Linda Iverson

(Reprinted from the Spring 1999 issue of *Kelseya*, the newsletter of the Montana Native Plant Society)

We all know that our native populations of *Echinacea angustifolia* are diminishing due to unscrupulous collecting to meet the needs of the medicinal industry (see December 1998 issue of *Castilleja*). What can you do to help save this plant? Think about raising a patch of *Echinacea* for your home pharmacy, or if you're more ambitious, try commercial growing.

The genus *Echinacea* (Asteraceae) includes nine species that are indigenous to North America. *Echinacea angustifolia* and *E. purpurea* are used for medicinal purposes. Marketed plant parts include wet and dry roots, leaves, and flowers. In general, roots are the most sought after. Flowers, rather than leaves, usually contain greater quantities of medicinally-active ingredients.

Moisture and Light Requirements: *Echinacea* is known to be exceptionally drought tolerant. In most production areas, ambient rainfall may be sufficient after the establishment year. *E. angustifolia* usually responds negatively to excess irrigation. Soil around plants should surface dry before water is added. Drip irrigation systems are best, but overhead sprinkler irrigation can also be used as long as over-watering is avoided. Both species do best in full sun.

Soil Preference: *Echinacea angustifolia* does well in gravelly, clay-type soils with good drainage. It will not tolerate wet feet, and does best at an alkaline pH. All species do well in raised beds because of enhanced drainage and aeration. They grow on relatively poor soil without fertilizer. Nutrient requirements have not yet been established, but most reports indicate that *E. purpurea* responds to nitrogen fertilization more aggressively than *E. angustifolia*. However, high nitrogen fertilizer is not recommended, especially when growing *Echinacea* for root harvest.

Planting: Both growers and researchers report poor stand establishment using field sown seeds. Establishment of transplants has been very successful and it is recommended that seeds are started in a greenhouse or other protected structure. *E. angustifolia* prefers a cold stratification period of up to 12 weeks in moist sand. Some researchers report a response to light quality and quantity. Therefore, cover seeds lightly, if at all, during germination. Germinate at 65-79° F and transplant within 20-30 days after sowing. Sow in January or February to ensure well-rooted transplants by May or June. Do not let *E. angustifolia* get past first true leaf stage before transplanting. Their deep taproot is established early and is difficult to transplant. Most growers recommend 12 inches between plants with rows at 2 feet.

Weed Control: Development of the first year *Echinacea* plants can be slow, except for *E. purpurea* which often flowers the first year if started early enough in a greenhouse and transplanted into the field. First year seedlings are unable to compete with weeds, so keep them weed-free then. Straw, bark mulch or plastic mulches can be used for weed control and moisture management. *E. angustifolia* does better with a plastic mulch than organic. Cover crops planted in the rows also help to smother weeds and allow for plant rotation.

Harvesting: During winter dormancy of the second or third year, the roots may be dug. Wait until the plants have died back and the leaves have shriveled and gone brown. To dig the roots by hand, use a sturdy shovel and push deeply next to the plant and lift up to reveal a large clump of dirt enclosing the roots. The roots may be shaken free of dirt while still attached to the crown, resulting in a harvest of a heavy crown with numerous taproots and root hairs not normally seen on wild harvested *Echinacea*. Removal of competing weed species and timely watering allows domesticated roots to grow, on average, 4 times larger than their wild counterparts. *E. purpurea* crowns generally must be split and pulled apart prior to washing to get the dirt free of the extensive root system. *E. angustifolia* roots should be left whole and washed as is.

Drying and Storing: Once roots are clean, they can be dried on racks or screens in open air out of the sun. Tops can be dried the same. This will usually take 2-4 days. Roots must be 100% dry before storage to avoid fungal and bacterial problems. Store dried roots in airtight containers. Maximum storage is 1 year.

Sources for Plants and Seed: The following companies supply *Echinacea* seed –

Beauty Beyond Belief, 1730 South College Ave # 104, Ft. Collins, CO 80525

Garden City Seeds, 778 Highway 93 North, Hamilton, MT 59840

Western Native Seed, PO Box 1463, Salida, CO 81201

Wind River Seed, 3075 Lane 51 ½, Manderson, WY 82432

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This article is the condensed version of a 5-page guide to growing *Echinacea* compiled by Helen Atthowe, Missoula County Extension Horticulturist and *Echinacea* grower. If you are interested in the full version, send a self addressed stamped envelope to Linda Iverson, HC 88 Box 3733, Big Timber, MT 59011.

For more information, consult the *Echinacea* growers resource page:
http://WWW.egregore.com/herb/echinacea.html
Or the Western Agricultural Research Center web page
WWW.Hort.AGRI.UMN.EDU\3002\Echinacea.HTM

Botanist's Bookshelf

The only thing better than botanizing in the field or garden is reading about it! Fortunately, there are a number of magazines and serials that focus on gardening, native wildflowers, and plant conservation for the armchair botanist. A small sample is discussed below:

Brooklyn Botanic Garden 21st-Century Gardening Series. Brooklyn Botanic Garden, 100 Washington Ave., Brooklyn, NY 11225-1099. Mention Brooklyn, New York, and many people get nostalgic for the Dodgers (the team that left the city behind in 1958 for the city of Angels). The Brooklyn Botanic Garden is working hard to restore the city's good name with its quarterly publication, "21st Century Gardening Series". Each edition of the series is a full-color, handsomely illustrated 100 + page paperback book addressing in great detail a different aspect of gardening and botany. Recent titles include "Ferns", "Natural Insect Control", "Biodiversity in Backyards", "Butterfly Gardens", "Native Perennials", "Invasive Plants", "Easy Compost", and "Starting from Seed" (to name just a few). The most recent volume, "Flowering Vines" includes chapters on growing vines successfully, using vines for landscaping, a feature on viney species of *Clematis* and Rose, and an illustrated "encyclopedia" of over 40 vine taxa with information on cultivation, native habitat, and hardiness. Individually, these books sell for $9.95, but subscribers to the series receive 4 issues a year (and other publications and benefits of the botanic garden) for $35. The full catalog of available publications from the Garden can be found on their web site (www.bbg.org/gardenemporium) or by contacting the BBG at the address above.

Plant Talk. PO Box 354841, Palm Coast, FL, 32135-4841. "Plant Talk" began publication in 1995 in England, and has become one of the leading international voices for plant conservation. Published quarterly, each issue includes illustrated features on rare plant species, exotic and highly threatened floristic regions, and profiles of leading plant conservationists. Recent issues have featured new topics as diverse as threats to the Florida Everglades, rare plant conservation efforts on tropical Pacific islands, the plight of Cambodian rain forests, the possible effects of climate change on world forestry, efforts to reestablish *Hebe breviracemosa* (a shrubby relative of *Veronica*) to its native habitat in New Zealand, tips on conducting rare plant monitoring studies, a review of new protected areas in Africa, and a profile of Linnaeus. Other features include book reviews and a bulletin board of upcoming conferences and events. The magazine has a truly international (and British) flavour! Subscriptions are $28 per year. WF

The Plant that Knocked the Socks off of Socrates

Or, My one-man battle with *Conium maculatum*

By John "the Bard of Burns" Baxter

One summer in Laramie, WY, when I was teaching a course on edible and poisonous wild plants, my class and I discovered a vacant lot that was full of plants of the poisonous European hemlock (*Conium maculatum*). As we started back towards the campus I noticed a backyard garden where this plant was growing in a row. When I talked to the lady of the house she said they had thought the plants were second year carrots. She said her kids had used the hollow stems to make blowguns! The next time I passed that yard the plants had disappeared. I told the city about the hemlock jungle in the vacant lot, and they sent a crew who sprayed them.

In May 1998, I moved to Ashland, Oregon and found myself in Hemlock Heaven. I've seen the plant in planters in front of shops on Ashland's main street and in flowerbeds at a local nursery. The girl at the nursery looked at them and said she thought they were anemones. I told her that if she ate them she would encounter an enemy anemone that would make an enema necessary, plus a lot of other treatments.

The leaves of European hemlock look like carrot leaves. I bought a bundle of carrots with leaves attached and photographed them beside leaves of the hemlock. When I showed this to the people at the newspaper the reaction was a big yawn. I guess newspapers find botany boring!

Correction to "Non-Native Plants of Wyoming" List: The list of non-native plant species in the Wyoming flora published in the May, 1999 issue of *Castilleja* has two mistakes: *Acer negundo* var. *violaceum* is a good native species, although it may be planted in parts of its range. Populations in eastern Wyoming should be considered native. *Onopordum acanthium* was mistakenly coded "*" indicating it was introduced from native populations elsewhere in North America, when it should have been tagged as a state noxious weed ($). A revised version of this list will be maintained on the Society's new web site when it is unveiled later this fall. WF

Noteworthy Collections from Wyoming

By Walter Fertig and Stuart Markow

New vascular plant species for Wyoming continue to come to light from literature sources, reexamination of old herbarium specimens, and ongoing field research. Among the new species are the following:

Anthriscus caucalis (Bur-chervil) This weedy member of the parsley family was discovered in the Black Hills (Crook County) by Gary Larson and James Johnson in July 1992 (Prairie Naturalist 27:116). Bur-chervil resembles Queen Anne's lace (*Daucus carota),* but has a beaked fruit without prominent ribs. It has become widely established in the Pacific Northwest, Canada, and eastern United States, but had not previously been located in the midwest. Unfortunately, Larson and Johnson found this species near Sand Creek, a significant botanical area on Black Hills National Forest noted for its rich assortment of rare plants.

Carthamus tinctorius (Safflower) Safflower is a European native often planted in gardens, that has apparently escaped in the Big Hollow area of Albany County, west of Laramie. This member of the sunflower family resembles a knapweed (*Centaurea*), but has orange flowers, leafy outer involucre bracts, and sharp-toothed leaves.

Helianthus cusickii (Turnip-root sunflower) Another member of the sunflower family, *H. cusickii* was first discovered in Uinta County Wyoming by Duane Atwood and Ben Franklin in 1988. It was originally determined as *Helianthella uniflora*, (a look-alike that differs in having flattened achenes with a persistent pappus) but was recently annotated by William Weber. Turnip-root sunflower gets its common name from its enormously thickened taproot. This native species ranges from C Washington to NE California and east to Idaho and may be disjunct in SW Wyoming.

Hymenoxys acaulis var. *epunctata* (Spotless stemless hymenoxys) Aven Nelson described this member of the sunflower family from the Uinta mountains of NE Utah in 1904, but the taxon languished in synonymy for years until it was resurrected by Arthur Cronquist in 1994. Robert Muir collected a specimen in the eastern Wind River Range (Fremont County) in 1938, the first (and so far only) record known for Wyoming. Var *epunctata* differs from other varieties of *H. acaulis* in having nearly glabrous and non-punctate leaf blades. It is a regional endemic of eastern Utah, northwest Colorado, and west-central Wyoming.

Penstemon haydenii (Blowout penstemon): See page 4.

Below: *Sedum acre* (from Britton and Brown 1914).

Robinia neomexicana (New Mexico locust). This shrubby or tree-sized member of the pea family is native to the southwestern United States and Mexico, but may also escape from cultivation. Amy Roderick discovered a probable escapee in the Goldeneye Wildlife and Recreation Area west of Casper (Natrona County) during a floristic survey in 1997-98. New Mexico locust resembles *R. pseudoacacia* (another alien in WY) by having pinkish rather than white flowers, pubescent rather than glabrous fruit pods, and a densely glandular rather than non-glandular inflorescence axis.

Sanguisorba annua (Annual burnet): Stuart Markow located this member of the rose family (Rosaceae) while conducting a rare plant survey along the eastern shore of Jackson Lake (Teton Co.) in 1999. This species resembles *S. minor* in having a dense spike of small greenish flowers terminating each long, leafless flower stem, but differs in having finely dissected (rather than pinnately compound) leaves and 2 (as opposed to 10 or more) stamens. The species is native in the southern Great Plains and throughout the Pacific Northwest, with known populations approaching Wyoming in eastern Idaho and western Montana.

Sedum acre (Mossy stonecrop) This yellow-flowered, fleshy-leaved perennial was discovered along a dry wash on the outskirts of Laramie by Walter Fertig in July 1999. A native of Europe, it has escaped from cultivation throughout the US. *Sedum acre* resembles *S. stenopetalum* in having divergent fruit pods, but has rounded rather than keeled leaves.

Veronica officinalis (Common speedwell): Heather Marks first collected a specimen of this small, perennial member of the snapdragon family (Scrophulariaceae) while conducting a biodiversity study just south of Moose (Teton Co.). *V. officinalis* most closely resembles *V. americana* in having short-petioled upper leaves with axillary racemes. It differs in being densely hairy and in having coarsely serrated leaf margins. This European species has been widely introduced throughout much of the eastern US and sparingly so in the Pacific Northwest.

The Wyoming Native Plant Society, established in 1981, is a non-profit organization dedicated to encouraging the appreciation and conservation of the native flora and plant communities of Wyoming. The Society promotes education and research on native plants of the state through its newsletter, field trips, and annual student scholarship award. Membership is open to individuals, families, or organizations with an interest in Wyoming's flora. Members receive *Castilleja*, the Society's quarterly newsletter, and may take part in all of the Society's programs and projects, including the annual meeting/field trip held each summer. Dues are $7.50 annually.

To join the Wyoming Native Plant Society, return the membership form below to:

Wyoming Native Plant Society
PO Box 3452
Laramie, WY 82071

Name: _____

Address: _____

_____

___ $7.50 Regular Membership
___ $15.00 Scholarship Supporting Member
($7.50 goes to the annual scholarship fund)

Below: WNPS members on the 1999 annual field trip on the east side of Flaming Gorge, just south of the WY state line. Standing from left: Dr. William Reiners, Walt Fertig, Mike Evans, Joan Lucas, Nina Haas, Teresa Prendusi. Seated from left: Claire Leon, Jean Daly, Laura Welp, Max Welp. Photo by Norma Reiners.

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